

J15-7/25 ✓
IN REPLY REFER TO:
CINCPAC FILE
FF12/

THE PACIFIC COMMAND
AND
UNITED STATES PACIFIC FLEET
HEADQUARTERS OF THE COMMANDER IN CHIEF

34
IN REPLY REFER TO:
CINCPACFLT FILE
FF12/
A16-3/S67
Ser 0675

30 AUG 1950

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REGISTERED MAIL ~~DECLASS~~

From: Commander in Chief U. S. Pacific Fleet
To: Chief of Naval Operations

Subj: Information on performance of British and U.S. shipborne radars

Encl: (1) Copy of COMSEVENTHFLT Confidential ltr tpm/32 A16-3 ser 075
of 7 Aug 1950
(2) Copy of COMCARDIV 3 Confidential desp 261400Z June 1950
(3) Copy of COMCARDIV 3 Confidential desp 240700Z August 1950

1. Enclosures (1), (2), and (3) are forwarded for information.

John Gingrich
JOHN GINGRICH
CHIEF OF STAFF

Copy to: (with encl (1),(2),(3))

CINCLANTFLT	"	"
CINCNELM	"	"
COMSIXTHFLT	"	"
COMFIRSTFLT	"	"
COMNAVFE	"	"
COMAIRPAC	"	"
COMAIRLANT	"	"
COMCRUDESPAC	"	"
COMSERVPAC	"	"
COMPHIBPAC	"	"
COMSUBPAC	"	"
COMTRAPAC	"	"

OCT 27 1950

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FORM NO. CINCPACFLT-26

06852

DECLASSIFIED IAW: E.O. 12958 & OPNAVINST 5513.16 (SERIES)

THIRD

UNITED STATES PACIFIC FLEET
COMMANDER SEVENTH FLEET

tpm/32
A16-3
Serial 075

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7 AUG 1950

From: Commander Seventh Fleet
To: Commander in Chief, U. S. Pacific Fleet

Subj: Amplification of Report of Combined Exercise with
British Far East Fleet 28 February - 10 March

Ref: (a) ComSeventhFleet Conf ltr. A16-3 Ser 038 dtd 30 March 1950
(b) CinCPacFleet Conf ltr. S67 Ser 0328 of 29 Apr 1950
(c) CinCPacFleet Conf ltr. A16-3 Ser 0349 of 4 May 1950

1. Available information as requested in reference (c) in connection with subject exercises concerning the equipment, methods and operational limits observed in the tracking and control of jet aircraft by British ships, is submitted herewith. This report was purposely delayed till adequate information was gathered. An officer representative of Commander Seventh Fleet was sent to Hong Kong to obtain much of the information that follows.

2. The HMS JAMAICA is using a type 281 Radar, frequency 86 mc; 5 micro second pulse width at 50 or 100 pulses per second; 400 kw peak power. The antenna is a stacked dipole type using four dipoles mounted in a square, and each using a parasitic reflector. This arrangement gives approximately a 35 degree lobe width. The target indication on the scope is about 15 to 20 degrees wide and the operators cut the center for the target bearing. The antenna rotates at 4 rpm. During the joint operation this radar reportedly tracked out jets out to 60 miles where control vectored them back. Echoes were very strong on the turn, and were visible back to about 20 miles.

3. At 20 to 26 miles the target is transferred to the type 293 radar. This operates at 3000 mc; approximately a 1.6 micro second pulse at 500 P.P.S.; 1 megawatt input to the magnetron. The antenna is a sliced parabola elevated about 5 degrees rotating about 14 rpm. Reception is spotty but seems to be sufficient for detection.

4. The British officers feel that their ability to detect jets is due to the extremely wide lobe and pulse width of their equipment. The lower frequency and wide pulse may be of value, but we believe that a more concentrated antenna lobe should give a stronger echo. It is interesting to note that both types of British equipment were built before 1942.

5. During recent exercises off Pearl Harbor the present flagship of Commander Seventh Fleet, U.S.S. ROCHESTER CA124 was able to conduct a number of tracking exercises in which jets were the target. The Canadian Cruiser Ontario was also operating in company with the ROCHESTER.

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C O P Y

ENCLOSURE (1)

DECLASSIFIED IAW: E.O. 12958 & OPNAVINST 5513.16 (SERIES)

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7 AUG 1950

The consensus of five officers questioned was that the results of both ships were about the same, but that the reliability of picking up single jet planes by both British and U.S. ships was far from the desired state of efficiency of the radar equipment. The ROCHESTER has SR 3B radar with AN/SPS 6A antenna. The ROCHESTER has been able to pick up single jet planes at a range of forty (40) miles and in groups of four (4) planes up to 90 miles on the SR radar.

6. During the latter part of May, the RADFORD DDE446 and FLETCHER DDE 445 joined the Seventh Fleet. Both destroyers have the AN/SPS 6B type radar installed and excellent results on all types of targets have been obtained. On 3 and 4 July when Seventh Fleet forces made a sweep through the Yellow Sea FLETCHER was able to track a group of 12 jets over land out to a distance of 126 miles and picked them up on the return flight at 87 miles. The planes were not tightly bunched. This type radar has given reliable coverage of approaching jets at 60 to 70 miles (2 jets). Single jets have been picked up with ease at 50 miles. B-29 bombers and C-54 transports have been tracked out to a range of 180 miles across land. Reliable ranges are considered to be around 120 miles on this type of target providing the plane has sufficient altitude above the horizon for the radar waves to reach it. Weather has little or no effect on performance. !!

7. The bearing resolution on the SPS 6B is excellent. The SPS radar has a fade area on targets at 25,000 feet within 6 to 7 miles of the ship. The FLETCHER reports an absolute minimum of maintenance required to keep this radar in operation. This radar in many cases has given better performance than the SG type on surface search. The performance of the SPS radar on the FLETCHER and RADFORD is far superior to any British types yet encountered.

/s/ G. T. Mundorff
G. T. MUNDORFF
By direction

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COMCARDIV 3 ~~Confidential~~ desp 261400Z June 1950

From: COMCARDIV 3
To: COMSEVENTHFLT

Info: COMCEUDESPAC, COMAIRPAC, CIC GRUTRACEN SDIEGO, RADFORD DDE446,
FLETCHER DDE445, VALLEY FORGE CV45, BUSHIPS, CINCPACFLT, COMNAVFE,
FAWTUPAC, COMFIRSTFLT, CTG 70.5

RECENTLY CONDUCTED EXTENSIVE AIR CONTROL EXERCISES WITH SEVERAL EXCHANGES
OF CONTROLLERS IN COMPANY WITH FLETCHER AND RADFORD X WITH DDE SPS USING
NO IFF HAD SOLID CONTROL JET CAP SECTIONS TO 70 MILES AT 25000 FEET AND
WORKABLE CONTROL JET DIVISION TO 110 MILES X JET PILOTS REPORTED BEST
CONTROL ON RECORD WITH CV ALL WEATHER CONTROLLER EMBARKED DDE X SUBSTANTIAL
JET CONTROL LIMITATIONS OF VALLEY FORGE WITH ALL ELECTRONICS OPERATIONAL
HAVE BEEN WELL ESTABLISHED X IN VIEW ABOVE AND NEED FOR SAFETY IN JET
OPERATIONS AND HIGH DEGREE AIR DEFENSE READINESS RECOMMEND X SPS
INSTALLATION BE GIVEN TOP PRIORITY FOR CV RELIEVING VALLEY FORGE X SPS
EQUIPPED SHIP ACCOMPANY CV ALL EXTENDED OPERATIONS X FLETCHER AND RADFORD .
BE RELIEVED ON STATION IN WESPAC BY SPS EQUIPPED DDE OR DD

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ENCLOSURE (2)

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COMCARDIV 3 ~~Confidential~~ desp 240700Z August 1950

From: COMCARDIV 3
To: COMNAVFE

Info: COMCARDIV 1, CINCPACFLT, COMSEVENTHFLT, COMCRUDESAC, COMAIRPAC,
BUSHIPS, CTG 96.5, CTG 96.8, CTG 77.2, COMCORTON 1, USS FLETCHER,
USS RADFORD

YOUR 230812Z AUG MY 261400Z JUNE BOTH NOTAL REFER X IN EXECUTION 1ST REF
ATTN INVITED 2ND REF AND TO FACT THAT ADVENT FAR EAST NUMEROUS SR 6A
VARIOUSLY EVALUATED AS "EQUIVALENT SPS 6B" HAS MADE NO CHANGE OUTSTANDING
AIR WARNING AND AIR DEFENSE SUPERIORITY FLETCHER AND RADFORD X RADAR
PERFORMANCE THESE DDE CONTINUES SURPASS BUREAU EXPECTATIONS AND PERFORMANCE
OF GR X CVE X HO X CVL X AGC X MCA X AND DDR X COMMENDABLE MOTIVATION
SUPERVISION AND SHIPS FORCE EFFORT HEAVILY RESPONSIBLE THIS SUPERIORITY
BUT BASIC REASON IS SUPERIOR RADAR AND/OR INSTALLATION X IF TF 77 MUST
BE DEPRIVED SERVICE THESE DDE SUGGEST THEIR EMPLOYMENT WITH ANOTHER
CARRIER GROUP OR IN SPECIAL OPERATIONS WHERE CARRIER AIR DEFENSE
CONSIDERATIONS APPLY X FOR COMCRUDESAC X SUGGEST INTERIM ACCEPTANCE ABOVE
DDE AS BEING IN FACT BEST DDR IN PACIFIC WITH VIEW INCREASE THEIR OFFICER
ALLOWANCE PROVIDE ADDITIONAL CONTROLLERS

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ENCLOSURE (3)